



MEMORANDUM

Brush Creek – Blue River Confluence
P-12210.4

Conceptual Environmental Restoration Opportunities and Preliminary Opinion of Probable Cost

Brush Creek – Blue River Confluence Section 206 Preliminary Assessment

April 10, 2014

Vireo has prepared the attached conceptual restoration plan for the western portion of the Municipal Farm property in Kansas City, Missouri. The attached plan builds upon preliminary ecosystem restoration opportunities identified as part of the Blue River Greenways Phase II Study for the U.S. Army Corps of Engineers (USACE) and the City of Kansas City, Missouri Water Services Department (City), the Local Sponsor. The current Preliminary Assessment is being performed for USACE and KCMO to further study the area and refine ecosystem restoration concept, in order to help USACE and the City determine whether a Federal Interest exists. No Federal funding is currently available or obligated for further study, design, or implementation.

The attached information includes an overview of the current working draft conceptual restoration plan, and a more detailed view of the eastern planning area (informally referred to as "Phase I"). A Preliminary Opinion of Probable Cost is provided as well. The conceptual restoration plan is based on a thorough review of previous studies and existing information regarding site conditions, and two (2) site reconnaissance surveys by the USACE consultant team. The concept plan may change through additional study, planning and design. Conceptual restoration opportunities have been coordinated with related planning and redevelopment efforts, specifically the Municipal Farm Sustainable Reuse Plan; in consultation with responsible City departments and state, Federal and not-for-profit partners.

This information is provided to the Missouri Department of Natural Resources for consideration as a restoration project under a Natural Resources Damages settlement. Important assumptions include the following:

- The hydrology of the wetland and riparian features in the Phase I area is predominantly groundwater-based, with a significant surface water contribution from the surrounding watershed. Periodic Blue River flooding provides an additional hydrologic contribution.
- Restoration opportunities in the Phase I area would require relatively minor grading and structural modification. Fine grading may enhance habitat areas and stabilize stream banks. Hydrologic control structures may be needed to adjust water surface elevations and promote internal drainage.

BRUSH CREEK - BLUE RIVER CONFLUENCE
Conceptual Environmental Restoration Opportunities
Preliminary Opinion of Probable Cost
10-Apr-15

Planting/Construction Costs	Cost/Ac.	Acres
Marsh	\$35,000	3.5
Wet Meadow	\$30,500	6.3
Woodland Enhancement	\$2,500	2.7
Bottomland Woodland	\$2,500	9.4
Stream and Riparian Restoration	\$65,400	4.5
Open Water (Dredging)	\$96,800	2.2
Riparian Buffer Restoration	\$2,500	4.2
SUBTOTAL:		32.8

Prep./Invasive Species Removal	Cost/Ac.	Acres
Marsh	\$7,500	3.5
Wet Meadow	\$7,500	6.3
Woodland Enhancement	\$5,000	2.7
Bottomland Woodland	\$5,000	9.4
Stream and Riparian Restoration	\$5,000	4.5
Open Water (Dredging)	NA	2.2
Riparian Buffer Restoration	\$3,000	4.2
SUBTOTAL		32.8

Design/Contingency

20%

Notes:

1. The Opinion of Probable Cost is for budgeting purposes only and is in no way intended as a guarantee of construction costs.
2. The estimated costs presented above are preliminary and subject to change based on additional analysis, planning and design.
3. The Opinion of Probable Costs in no way implies or assumes that that design or construction funding is available or obligated.
4. Other potential compatible uses, such as urban agriculture, are to be determined.

